



*Turning Trash to Treasure*



# Executive Summary

## Issues

Lack of **organizational sustainability**-  
non sustainable business model

**Socio-economic**  
disruption caused by  
**Covid-19**

Low levels of **public donation** yet highly dependent on it for income. **Non-diversified** sources of income

## Question

Given the challenges highlighted, how could Zero Waste SG achieve a **sustainable business model** and continue to grow its **impact** in Singapore in the **next 2 years**?

## Strategy

Zero Waste **Mobile Application** with **features**:

- Repurpose excess material: **B2C and B2B e-commerce marketplace** selling variety of **green** and **eco-friendly** products (masks, sanitizers, cosmetics, vegan food, **eco-enzymes**)
- **Freemium** Model-Premium account to access exclusive services including but not limited to exclusive food compost plantation and 'build your own' compost garden workshops. (ideal for schools)
- **Reward Based System** (leaderboards, badges, discounts, certificates on the ecommerce store) to further incentivize BYO campaign.
- **Waste Paper** Campaign: Waste paper **collection** from schools and office at **partner sites** and sold as **recycled paper products** (notebooks, tissue papers, kitchen & toilet paper)



## Impact

**US \$12 Trillion**

Expected Increase in revenue contributing to the SDGs by 2030

**188,000 Tonnes**

Paper can be saved from wastage by 2023

**US \$6.5 Trillion**

Market size for e-retail revenues

**US \$4.9 billion**

market value of e-commerce in Singapore

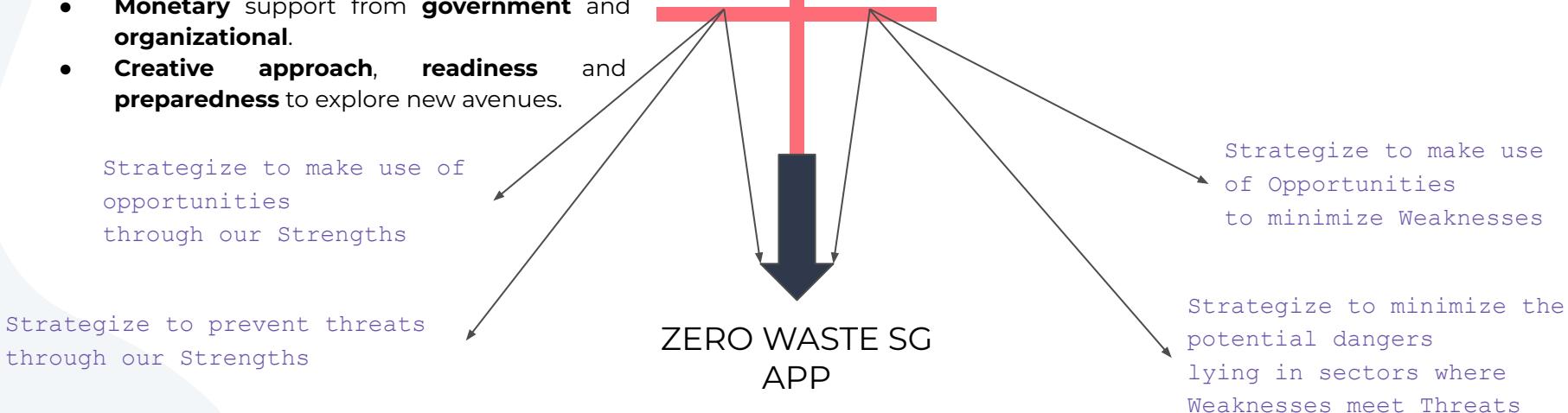
## STRENGTHS

- **Adaptable** and **flexible**
- **Diversified target groups** - schools and corporations or individuals.
- **Variety of services** offered
- **Broad issue** to work with which can be categorized into various sub-issues (food, electronic, household etc)
- **Relevancy** of Issue of Waste - It is an urgent need for the environment, especially in the post pandemic world.
- **Monetary** support from **government** and **organizational**.
- **Creative approach, readiness** and **preparedness** to explore new avenues.

## WEAKNESSES

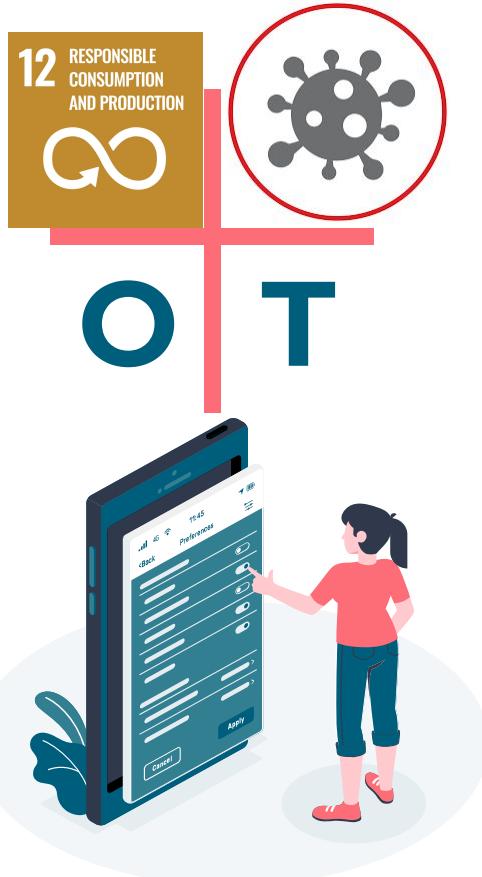
- Sources of **income** not diversified
- **No long-term** or **sustained** sources of **income**
- **Lack** of **contingency plans** for disruptive and unprecedented crisis and situations (for instance- Covid-19)
- Public **Donations - not reliable**, sustained and regular sources - **poor outcomes** and **funding** not stabilized
- **Abstract and non palpable, intangible** nature of Zero Waste's primary cause

**S** | **W**



## OPPORTUNITIES

- Growing Reliance of the world on Technology and Social Media Accounts.
- Have connected, worked and partnered with a large number of various organizations.
- The portfolio of the charity is impressive. It will help gain future partners due to reliability.
- More countries and governments understand the need of sustainable development. 70 nations have included such policies from 2017-2019.
- Sustainable development has become an integral aspect of school and university education.
- Thus, the pandemic offers an opportunity to develop recovery plans due to an accelerated shift to digitalization.



## THREATS

- Low Funding and low Public Donations
- Extensive Outreach but low support
- Public image of disconnection - impact of the foundation is intangible and abstract.
- Lack of methods to engage public.
- Covid-19 pandemic, the threat of economic recession and growing unemployment and uncertainty.
- Offices, government and schools less likely to spend additional costs on a charity given their losses.
- Covid-19 – move to virtual world and threat to physical meetings which Zerowaste relied on.
- Lack of Public Attention during Covid as the focus is on the virus, garnering attention more difficult.
- No tax rebates implies that there is a need to retain long term and sustained income sources which the charity lacks.
- Lack of public and government interest in the cause as much greater emphasis is on covid-19 and recovery from that crisis.

# Industry Analysis

## Industry Trends

1. **UN Sustainability Goals** increasingly adopted worldwide to guide **strategic decision making** for corporates, governments and schools.
2. Issue of waste management **ignored and overlooked** due to socio-economic disruptions caused by the **Covid-19** pandemic.
3. Increased use of **disposable face-mask and online ordering (packaging)** has caused tonnes of waste worldwide which needs to be managed and controlled.
4. Increased **scarcity** of resources due to **industrialization**.
5. Covid-19 **accelerated** the **shift** to a virtual and **digital landscape**.
  - 1) Market Size:
    - a. **US \$6.5 Trillion** Market size for e-retail revenues.
    - b. **US \$4.9 billion** market value of e-commerce in Singapore
    - c. The global waste **recycling** services **market size** was valued at USD 53.71 billion in 2019.
  - 2) Rate of Growth (Recycled Market):
    - a. 40% of **waste** generated worldwide is not managed properly.
    - b. Global Waste **Recycling** Services is expected to grow at a **compound annual growth rate** (CAGR) of 5.2% from 2020 to 2027.

## Market Analysis

## Existing Capabilities



### Extensive Partnerships

Engagement with 220 **diversified** companies.



### Social Media Outreach

30k page views monthly and significant following on social media platforms.



### Diversified Target Group

Schools/Corporations/Public

# Strategy and Solution Summary

**Issue:** Due to the uncertainty in the economy as a result of the unprecedented covid-19 pandemic, there is a demand for innovation, typically digital innovation to utilize a sustainable long term and impactful business model.



## Objectives

1. Work towards reducing and repurposing waste.
2. Arise from Covid-19 through digital innovation
3. Sustainability of the model
4. Towards a circular economy.
5. Engagement in Partnerships

## Questions

1. How can Zerowaste maximise its impact in repurposing and reducing waste across Singapore?
2. How can Zerowaste use Covid-19's digital influence as an opportunity to provide value driven services?
3. How can Zerowaste create a platform with a long term impact on environment and its sustainability?
4. How can Zerowaste influence more partners to use and invest in their platform ?



## Business Strategies

- Repurpose excess material: **B2C and B2B e-commerce marketplace** selling variety of **green** and **eco-friendly** products (masks, sanitizers, cosmetics, vegan food, **eco-enzymes**)
- **Freemium** Model - Premium account to access exclusive services including but not limited to exclusive food compost plantation and 'build your own' compost garden workshops. (ideal for schools)
- **Reward Based System** (leaderboards, badges, discounts, **certificates for green vendors** on the ecommerce store) to further incentivize BYO campaign.
- **Waste Paper** Campaign: Waste paper **collection** from schools and office at **partner sites** and sold as **recycled paper products**.

**13** CLIMATE ACTION



**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



**11** SUSTAINABLE CITIES AND COMMUNITIES



**8** DECENT WORK AND ECONOMIC GROWTH



## Solution: ZeroWaste App Key Features

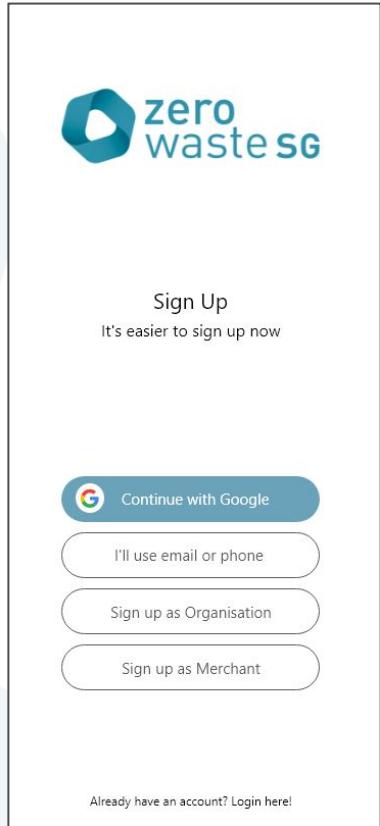
- Circular Model of collecting, recycling, synthesizing waste paper and selling waste paper products.
- Waste Paper recycled by partner manufacturers to produce recycled notebooks, tissue papers toilet/kitchen rolls.
- Has potential to overtake market of virgin paper.



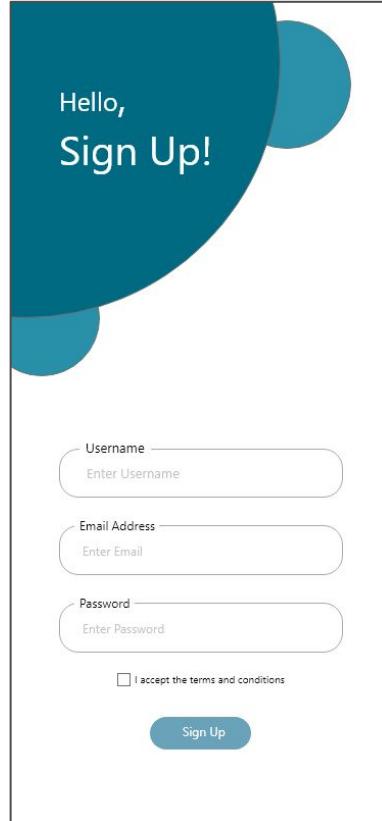
- Leverages and incentivises the current BYO campaign by introducing a reward based system on app.
- Partnerships with restaurants and compost plantation farms across Singapore to repurpose food waste.
- Promote compost farming amongst general public and educational organizations by selling compost plants!

- 100% Green eMarket Space that aims to reduce overall waste consumption by providing eco-friendly products repurposed from waste.
- Promotes "Ethical Online Shopping"

# Solution: ZeroWaste App Execution



The image shows the sign-up page for the ZeroWaste SG app. At the top left is the 'zero waste sg' logo. Below it is a large 'Sign Up' button with the subtext 'It's easier to sign up now'. To the right of the button are four sign-up options: 'Continue with Google', 'I'll use email or phone', 'Sign up as Organisation', and 'Sign up as Merchant'. At the bottom of the page is a link 'Already have an account? Login here!'



The image shows a close-up of the sign-up form. It features a large teal header with the text 'Hello, Sign Up!' in white. Below the header are three input fields: 'Username' (placeholder 'Enter Username'), 'Email Address' (placeholder 'Enter Email'), and 'Password' (placeholder 'Enter Password'). Underneath these fields is a checkbox labeled 'I accept the terms and conditions'. At the bottom is a blue 'Sign Up' button.

Target Audience

## Sign up as for an (Executive Free/Premium Account):

- School/University/Educational Institutes
- Offices/Companies
- Restaurants/Cafes/Hawkers
- Vendors across a multitude of categories looking to sell “eco-friendly” products
- Green Manufacturers
- Recycling Plants
- General Public

Target Market size



50,000  
Estimated  
Registered  
Users. (400  
organizations)

# Membership Benefits and Features



**ZEROWASTE**

YOUR REWARDS >  
PRODUCTS >

- general
- recycled
- home-based

ARTICLES >

- Becoming a Zero Waste Community requires a cultural shift
- New tool to measure Zero Waste Status

BYO-SUPPORTED STORES >

- near me
- grocery
- restaurant

FairPrice

INTIAITIVES >

- LET'S EAT TOGETHER
- SAVE FOOD CUT WASTE
- PAPER INITIATIVE

## Executive (Free) Account:

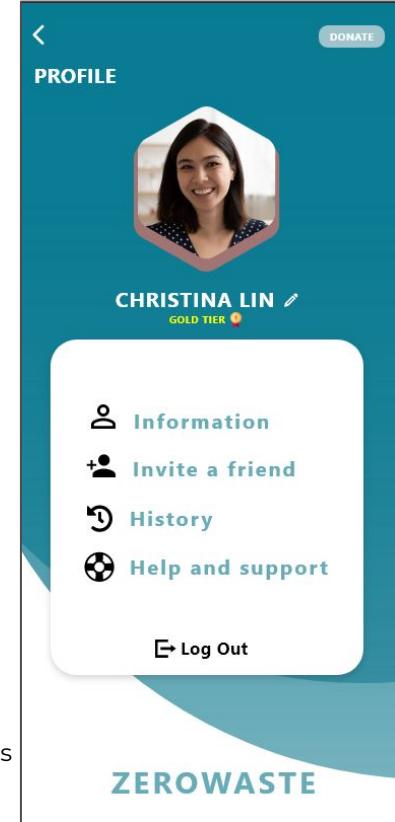
1. Access to green e-commerce store.
2. Reward System: Redeem points in eWallet upon participating in BYO campaign.
3. Earn Badges/Leaderboard.
4. Chance to Recycle with us!
5. Access to exclusive blogs and articles to increase your knowledge!!
6. Chat and connect with other like-minded Zero Waste Members!!



## Premium Account: (For Organizations)

Provision of Sustainable Insights - Customized Strategic Advisory for Sustainable processes including:

- 
1. Guidance Compost farming at schools and further using the fruits, vegetables at school canteens for meals.
  2. Dynamic Preventive Solution for companies to reduce waste at all stages
  3. Collection of Waste Paper and Food.
  4. Bulk Buying of necessary products such as recycled notebooks, tissue paper at discounted and highly price competitive rates.
  5. Access to exclusive compost plants.
  6. Customised Workshop Services to reduce indirect costs which arises from non sustainability. (includes a working paper audit)
  7. Includes all features of a free account



PROFILE

CHRISTINA LIN / GOLD TIER

Information

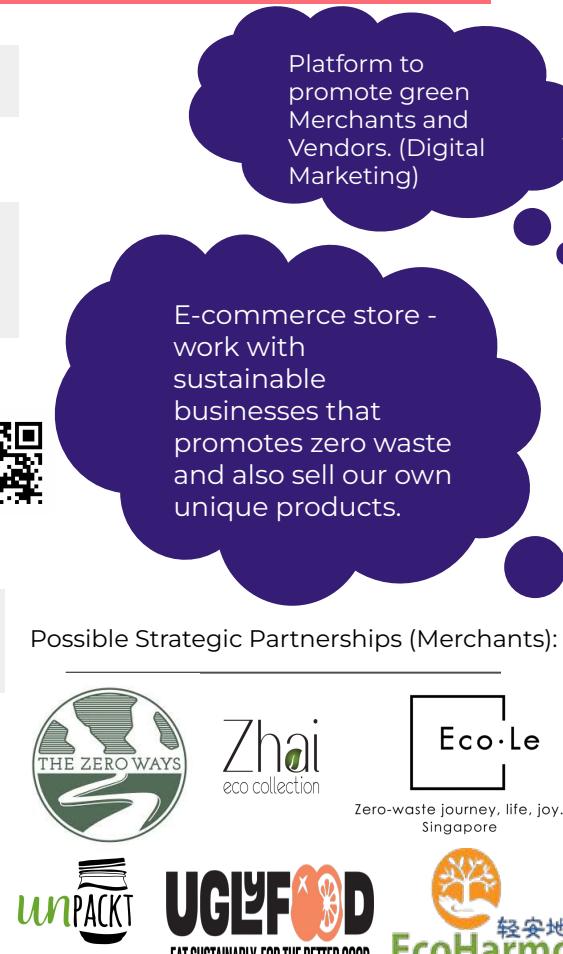
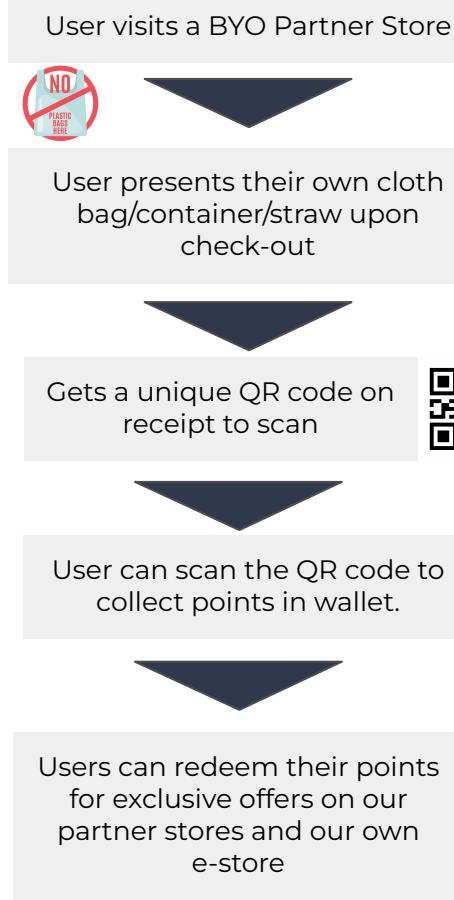
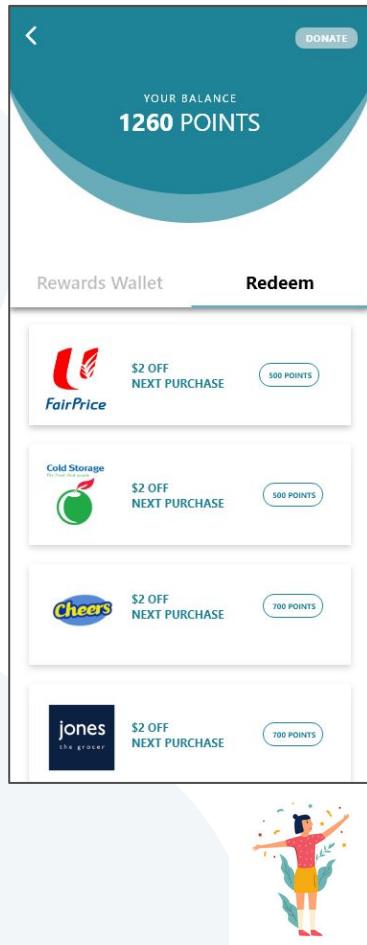
Invite a friend

History

Help and support

Log Out

**ZEROWASTE**



# Green eMarket Product Portfolio

## Covid-19 related products



## Sustainable Consumables



## Recycled Paper Products



## Eco Friendly goods

## Eco-Enzymes



Why eco-enzymes?

- **multipurpose** liquid that is produced from the fermentation of organic waste can be used as:

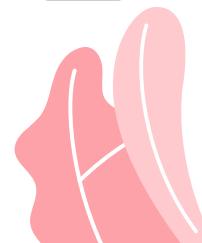
- Kitchen cleaner
- Dishwashing liquid
- Air purifier
- Clothes detergent
- Body wash and hair care
- Insect repellent
- Pesticide
- Fertilizer



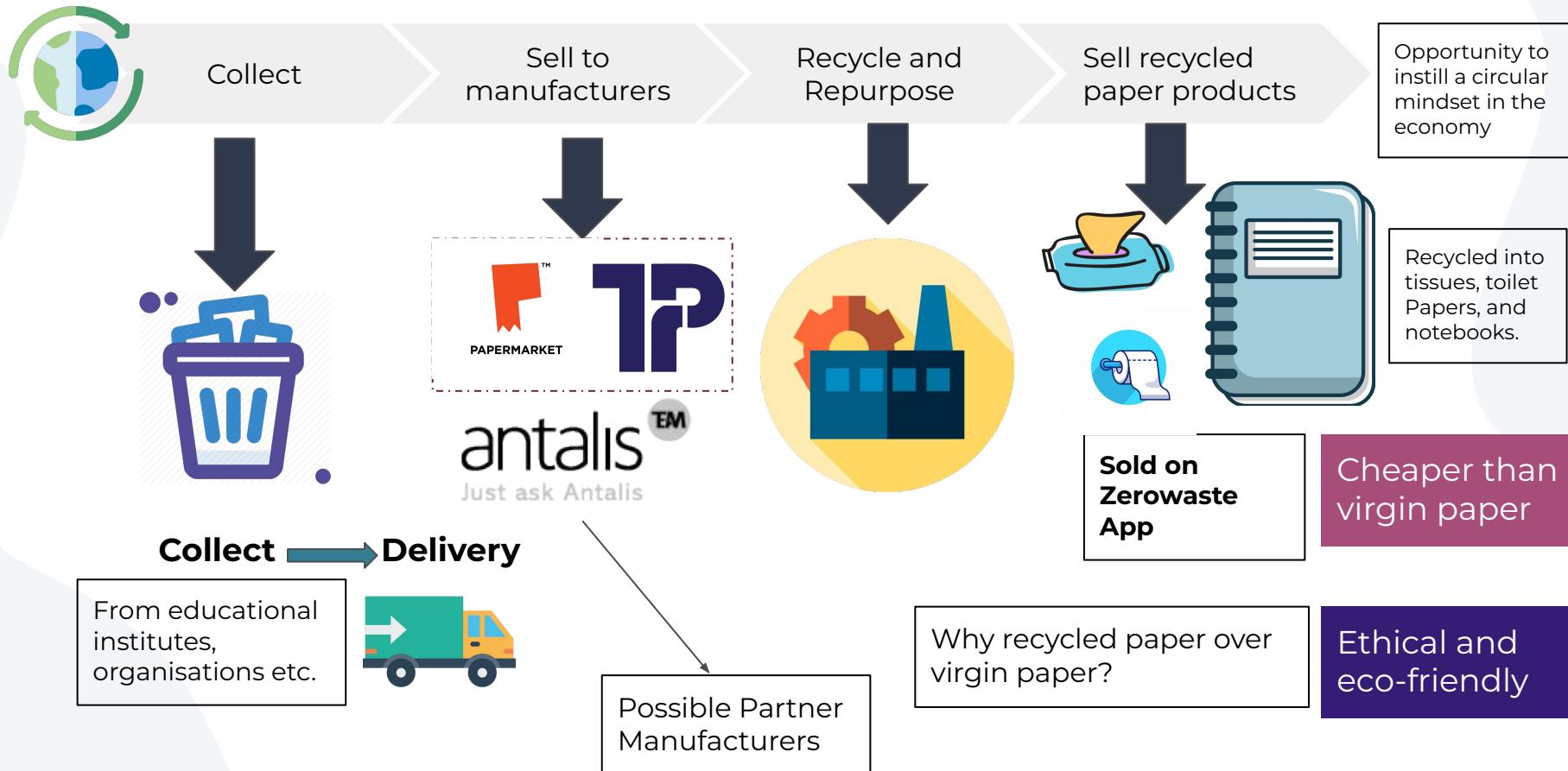
## BYO Supported Products



## Compost Based Plants



# Introducing the Paper Initiative





waste sg

# How much difference can recycling paper make?

In 2019,

Singapore produced 7.23 mn tonnes out of which 4.25 mn tonnes were recycled.  
Around 59% of the waste produced was recycled in 2019.

Recycling rate has hovered around 60% over the last few years.

However, the reduction of recycling rate from 61% in 2018 to 59% in 2019 was largely due to a reduction in paper cycling.

In 2019, 44% of the paper waste was recycled and  $561 \times 10^3$  tonnes of paper waste was disposed.

In 2018, 56% of the paper waste was recycled and  $467 \times 10^3$  tonnes of paper waste was disposed.

Reusing cardboard boxes reduces 4 tonnes of CO<sub>2</sub> for every tonne of cardboard corrugated.

Recycling paper reduces 4.2 tons of CO<sub>2</sub> per ton of paper recycled instead of manufacturing.

Every ton of recycled paper saves - 4100 kWh of energy, 7000 gallons of water, 9 barrels of oil, 60 pounds of air pollutants.

Cost of 1 kWh energy - 20.76 cents/kwh (before GST (SP group))

$$1\text{m}^3 \text{ water} - \$1.21 \quad (<40\text{m}^3) \\ \$1.52 \quad (>40\text{m}^3) \quad \rightarrow 1.365\$ \quad (\text{averaged dist})$$

If we recycled as much as 2018,  
that is, disposed as much as 2018,

$$= (561 - 467) \times 10^3 \text{ tonnes should've been recycled} \\ = 94 \times 10^3 \text{ tonnes}$$

We would save -  $94 \times 10^3 \times 4100 \text{ kWh}$  of energy and  $94 \times 10^3 \times 20.497 \text{ m}^3$  of water

That'd monetarily mean \$ 83,409,255.

PAPER  
INITIATIVES



## 17 PARTNERSHIPS FOR THE GOALS



\$84 million

Estimated  
Potential  
Market Gain

# Introducing Compost Based Plants



**Collect**  
From partner restaurants



 萬年青花園  
BAN NEE CHEN NURSERY



**Delivery**

Possible Partner Manufacturers

Sell compost to organic compost farms



Compost Potted Plants sold



Sold on  
Zerowaste  
App

Why use Organic Compost?

- Organic waste in landfills generates methane, a potent greenhouse gas. By composting wasted food and other organics, methane emissions are significantly reduced.
- Compost reduces and in some cases eliminates the need for chemical fertilizers.
- Compost promotes higher yields of agricultural crops.
- Compost can be used to remediate soils contaminated by hazardous waste in a cost effective manner.
- Compost enhances water retention in soils.
- Compost provides carbon sequestration.

Why buy compost plants from us than self composting?

Convenient

Less Time Consuming

Prevent odor at home which comes from self composting

# BUSINESS MODEL: REVENUE CHANNELS

Stakeholder



Pricing

- Pay for goods on eMarket
- Average Shipping fee of 2.5%
- Network Effect Value
- Membership fee for Premium Users



Value

- Wide Range of Unique Products
- Sustainable goods- ethical shopping
- Products with possible health benefits. (organic sanitizers cause less skin infection, vegan snacks)
- Lower Cost
- Reliable Flow

- Listing fee charged to the seller
- 7.5% commision for each transaction through Zero Waste.
- Raw Material fee from compost and paper manufacturer.

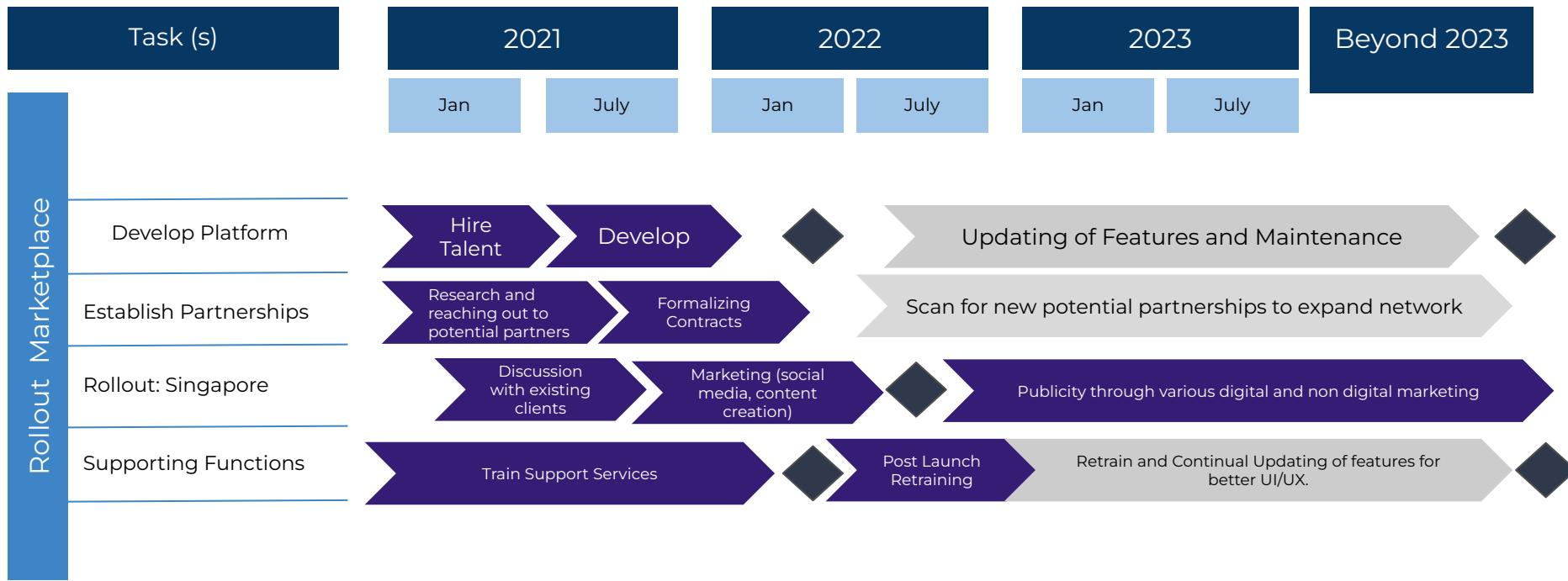
- Corporate social responsibility
- Another channel of revenue
- Positive- ethical marketing for better image.
- Unique Selling Point of Products

# COMPETITOR ANALYSIS

	eCommerce	Environmentally friendly (ethical)	Trusted/Certified Vendors	Redeem Rewards
Zero Waste	✓	✓	✓	✓
Shopee	✓	✗	✗	✓
susGAIN	✗	✓	✓	✓
STEP UP Sustainability	✗	✓	✗	✓

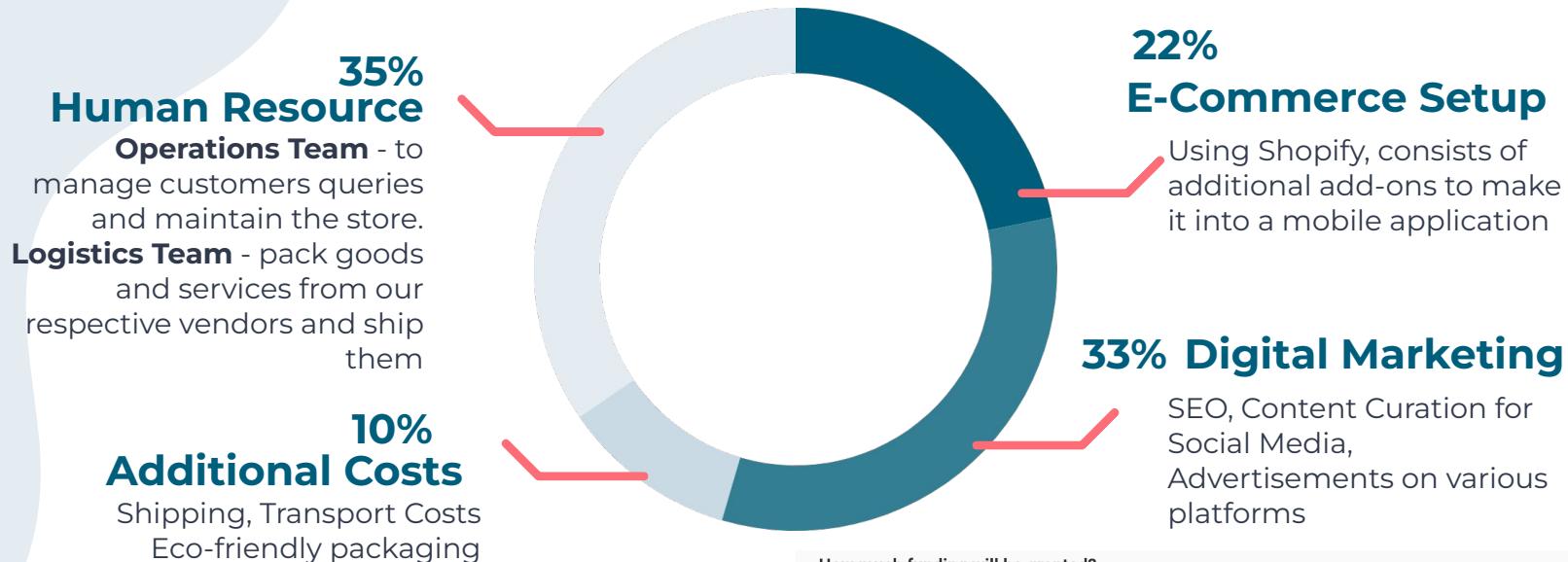
Furthermore, Zero Waste also features a community of users (volunteers, sustainable activists to chat and interact with, and also provide consulting services that are sustainability related. You can also read and access educational articles in the Zero Waste App. Hence, the app features a multitude of unique selling points .

# Timeline and Execution Strategy



# INVESTMENT

With an investment capital of \$8000



If the investment and financials are limited to kickstart the solutioning: ZERO WASTE should apply for SEC Funding for short term of 1 year.



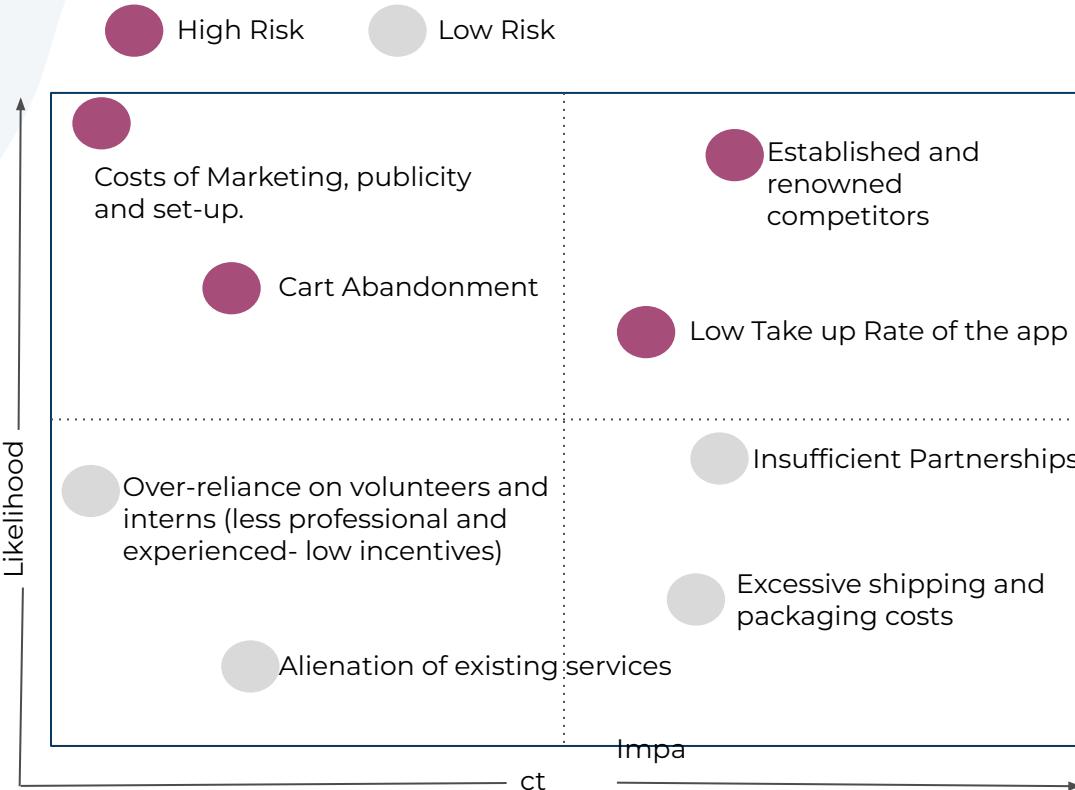
#### How much funding will be granted?

The 3P Partnership Fund works on a co-payment basis. First time application would receive no more than 60% of the supportable cost items. The quantum of funding percentage would be as indicated:

- 60% for the supportable cost items for the first year
- 50% for the supportable cost items for the second year
- 40% for the supportable cost items for the third year

NEA reserves the right to approve grant above the cap based on the merit of the application and track record.

# Key Risks and Mitigation



## Inability to achieve targeted critical mass:

1. Marketing and publicity campaigns- ethical marketing, content creation to garner new clients.
2. Need to leverage existing clients
3. Invest in a sales and customer support team in the long term once there are revenues generated.

## Established & renowned Competitors:

1. Aim for a first mover advantage in 100% ethical shopping.
2. Gain trust of consumers by marketing the USP products and services of **Zero Waste certified** and **reliable vendors** (rather than 3rd party sellers)
3. Leverage network effects

## Cart Abandonment

1. Membership not compulsory to purchase from e-store
2. The prices of final cart before checkout does not include any extra charges. All prices on "Product Choices" category include shipping, gst etc.

# Our solution drives long-term sustainable impact

1 &gt;

## Reduce, Reuse, Recycle & Repurpose Waste

Establish a B2C Marketplace to promote circular sustainable economy

- ✓ Introducing the concept of **environmental shopping**.
- ✓ Introducing **unique products** for the public's general consumption

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



2 &gt;

## Improve an insufficient business model

Business Model in which revenue is linked to sustainability directly

- ✓ Strategize for a **long term-revenue** which contributes to the **UN SDGs impact**.
- ✓ **Decrease dependency** on public **donations** and **funding**.

11 SUSTAINABLE CITIES AND COMMUNITIES



3 &gt;

## Overcome the socio-economic disruptions of Covid-19

Adapt to the growing digital landscape by leveraging on current and new partnerships

- ✓ Utilize **synergies** and **partnerships** to provide a **competitive advantage** and **mitigate risks**.
- ✓ **Decrease reliance** on physical consultancy services and **adapt** to **virtual landscape** by building an e community.

17 PARTNERSHIPS FOR THE GOALS



# Bibliography

SEC LAUNCHES ASIA'S FIRST DIGITAL GREEN MAP TO HELP EVERYONE ENJOY A GREEN LIFESTYLE,  
<https://sec.org.sg/wp-content/uploads/2018/06/1513214993.pdf>

SEC ANNOUNCES NEW CERTIFICATIONS UNDER ITS ENHANCED GREEN LABELLING SCHEME FOR PULP AND PAPER, <https://sec.org.sg/wp-content/uploads/2018/06/1520935325.pdf>

SEC APP MAKES IT FUN AND EASY TO MEASURE A GREEN LIFESTYLE,  
<https://sec.org.sg/wp-content/uploads/2018/07/1531280568.pdf>

Waste Statistics and Overall Recycling,  
<https://www.nea.gov.sg/our-services/waste-management/waste-statistics-and-overall-recycling>

<https://www.stopwaste.org/at-work/reduce-and-reuse/recycling-business-waste/recycling-and-climate-protection>

Tariff Rates,  
[https://www.usi.edu/recycle/paper-recycling-facts/#:~:text=Each%20ton%20\(2000%20pounds\)%20of,pounds%20less%20of%20air%20pollution](https://www.usi.edu/recycle/paper-recycling-facts/#:~:text=Each%20ton%20(2000%20pounds)%20of,pounds%20less%20of%20air%20pollution)

Singapore households generated additional 1,334 tonnes of plastic waste during circuit breaker: Study,  
<https://www.todayonline.com/singapore/singapore-households-generated-additional-1334-tonnes-plastic-waste-during-circuit-breaker>

Paper Recycling Facts,  
[https://www.usi.edu/recycle/paper-recycling-facts/#:~:text=Each%20ton%20\(2000%20pounds\)%20of,pounds%20less%20of%20air%20pollution](https://www.usi.edu/recycle/paper-recycling-facts/#:~:text=Each%20ton%20(2000%20pounds)%20of,pounds%20less%20of%20air%20pollution)

# 1: Business Models Considered

## Membership /Subscription Fee

- Users are charged fee to access the marketplace
- Sellers and buyers may not require to subscribe continuously.
- Meant for users in frequent transactions.
- Meant for company with large number of users to monetise this. (eg Netflix)
- Mandatory payment is discouraging

Decision: Rejected

## LEAD FEE

- Customers post requests and providers pay.
- big for these customers
- More monetary and profit driven as opposed to waste management.
- Clients only pay when they are put in touch with a new customer

Decision: Rejected

## Freemium

- Access to marketplace and basic services is free.
- Monetised through offering clients more premium services aligned with reducing wastage.

Decision: Rejected for individuals,  
Adopted for organizations

## Commission

- Without selling of goods- there would be no revenue.  
Lacks consistency.
- Nature of product and industry is such that this is the most optimum for gaining a revenue.

Decision: Adopted- integrated with listing fee on platform.

# 2: Annual Report Zero Waste

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Annual Report FY2020,

<https://www.dropbox.com/s/8cn0bgxwlchgssd/Annual%20Report%20FY2020.pdf?dl=0>

Finance Report FY2020,

<https://www.dropbox.com/s/9drmfpfmqtdqjzk/Zero%20Waste%20SG%20Limited%20-%20FY2020%20Finance%20Report.pdf?dl=0>

**ZERO WASTE SG LIMITED**  
(Incorporated in Singapore)

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(Incorporated in Singapore)

	2020 \$	2019 \$
<b>EXPENDITURES</b>		
ADMINISTRATIVE EXPENSES		
Auditor's remuneration	4,500	2,000
Secretarial fee	-	600
	4,500	2,600
<b>OTHER OPERATING EXPENSES</b>		
Bank charges	15	61
CPF and SDL contributions	9,389	6,494
General expenses	9,793	54
Wages	54,345	37,600
<b>TOTAL EXPENDITURES</b>	<u>73,542</u>	<u>44,209</u>
	<u>78,042</u>	<u>46,809</u>

DETAILED PROFIT AND LOSS ACCOUNT FOR THE FINANCIAL YEAR ENDED 30TH JUNE 2020

	2020 \$	2019 \$
<b>INCOME</b>	250,821	196,961
LESS: DIRECT COSTS		
Campaign and programme	204,263	72,925
Office rental	120	120
Storage space	1,210	1,108
Transport and travelling expenses	1,989	1,095
Workshop expenses	2,640	1,577
	<u>210,222</u>	<u>76,825</u>
<b>GROSS INCOME</b>	<u>40,599</u>	<u>120,136</u>
ADD: OTHER OPERATING INCOME		
Bank interest received	17	11
Government grants	8,500	528
Sundry income	63	-
	<u>8,580</u>	<u>539</u>
	<u>49,179</u>	<u>120,675</u>
LESS: EXPENDITURES (as per schedule)	<u>78,042</u>	<u>46,809</u>
<b>OPERATING (LOSS)/PROFIT FOR THE YEAR</b>	<u>(28,863)</u>	<u>73,866</u>

### 3: Merchants/Applications researched



#### Eco.le

Shopping    Grocery stores    Bukit Timah

A play on the French word for school, Eco.Le is a small zero-waste store doing its part in the plastic-free movement and hoping that more will learn about this lifestyle and follow suit. Like the rest on the list, it offers bulk foods and lifestyle products to help to reduce packaging and waste. The stocklist is constantly evolving and changing, making every trip a worthwhile experience. Bring your own bag, but if you forget, there are pretty woven baskets by the Greenie Genie that you can purchase.

What-if foods, <https://www.whatif-foods.com/pages/why>  
 Edible Garden City, <https://www.ediblegardencity.com/teach>  
 EcoHarmony, <https://eco-harmony.net/our-cafe-2/>  
 Zhai, <https://www.zhai.com.sg/pages/sustainability>  
 The Zero Ways, <https://www.thezeroways.com/shop>  
 Eco-le, <https://www.eco-le.com/>  
 UnPackt, <https://www.facebook.com/UnPackt.SG/>  
 Two Sisters Pantry, <https://www.facebook.com/TwoSistersPantry>  
 Paper Market, <https://papermarket.com.sg/>  
 Ugly Food, <https://www.uglyfood.com.sg/products/eco-enzyme-500m>  
 thediysecrets, <http://www.thediysecrets.com/>  
 susGain, <https://www.susgain.com/>  
 STEP-UP Sustainability, <https://step-up.sg/>



#### UnPackt

Shopping    Grocery stores    Ang Mo Kio

Singapore's first zero-waste grocery store sells a variety of bulk goods which run the gamut from olive oil and cane sugar to soapnuts and baked apple chips. All items sold in the store are packaged-free, meaning you've got to come prepared with your own containers or tubs, measure out the amount you want and pay according to weight – it's a green step forward towards a more sustainable lifestyle.



#### The Zero Ways

Run by a group of passionate individuals who believe in the zero waste and plastic-free movement, The Zero Ways is still largely a pop-up store, having made an appearance at some of the major flea markets in Singapore like So Gelam at Arab Street. It stocks grains, spices, chocolates, and reusable items such as eco-friendly toothbrushes and metal straws which you can cop from its online store too.

[thezeroways.com](https://thezeroways.com)